

PRELIMINARY AMENDMENT

Appl. No.: National Stage of PCT/JP2003/007615

Attorney Docket No.: Q84708

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS: -

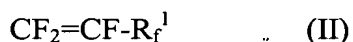
1. (original): A method for producing a fluorocopolymer

which comprises a polymerization reaction of a fluorine-containing ethylenic monomer with at least one fluorovinyl ether derivative represented by the following general formula (I):

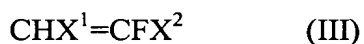


(wherein n represents an integer of 0 to 3, m represents an integer of 1 to 5, and A represents $-\text{SO}_2\text{X}$ or $-\text{COOY}$; X represents a halogen atom or $-\text{NR}^1\text{R}^2$; R^1 and R^2 are the same or different and each represents a hydrogen atom, an alkali metal, an alkyl group or a sulfonyl-containing group and Y represents a hydrogen atom or an alkyl group having 1 to 4 carbon atoms) to give a fluorocopolymer,

said fluorine-containing ethylenic monomer being a perhaloethylenic monomer represented by the following general formula (II):



(wherein R_f^1 represents a fluorine atom, a chlorine atom, R_f^2 or OR_f^2 ; R_f^2 represents a straight or branched perfluoroalkyl group having 1 to 9 carbon atoms, which may have an ether oxygen atom(s)) and/or a hydrogen-containing fluoroethylenic monomer represented by the following general formula (III):



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(wherein X^1 represents a hydrogen atom or a fluorine atom and X^2 represents a hydrogen atom, a fluorine atom, a chlorine atom, R_f^3 or OR_f^3 ; R_f^3 represents a straight or branched perfluoroalkyl group having 1 to 9 carbon atoms, which may have an ether oxygen atom(s)) and

said polymerization reaction being carried out in a saturated perfluorohydrocarbon while additional feeding of said fluorine-containing ethylenic monomer and said fluorovinyl ether derivative being carried out.

2. (original): The method for producing a fluorocopolymer according to Claim 1, wherein the polymerization reaction brings a mass of the fluorocopolymer relative to a volume of a polymerization solution to arrive at 30 g/L or a higher level.

3. (currently amended): The method for producing a fluorocopolymer according to Claim 1 ~~or 2~~,

wherein the saturated perfluorohydrocarbon has 20 or less than 20 carbon atoms and has a cyclic structure or linear structure each optionally with a branched structure.

4. (original): The method for producing a fluorocopolymer according to Claim 1, wherein the saturated perfluorohydrocarbon is a perfluorohexane or a perfluorocyclobutane.

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5. (currently amended): The method for producing a fluorocopolymer according to Claim 1, ~~2, 3 or 4~~,

wherein the fluorine-containing ethylenic monomer is $\text{CF}_2=\text{CF}_2$, n is 0 (zero), m is 2 and A is $-\text{SO}_2\text{F}$.

6. (currently amended): A fluorocopolymer produced by the method for producing a fluorocopolymer according to Claim 1, ~~2, 3, 4 or 5~~.

7. (original): The fluorocopolymer according to Claim 6

which satisfies the following relations (a) and (b):

$$0 \leq \Delta H \leq 6.375 - 0.475C \quad (5 \leq C \leq 13) \quad (\text{a})$$

$$0 \leq \Delta H \leq 0.2 \quad (13 < C \leq 18) \quad (\text{b})$$

where ΔH is a heat of fusion (in J/g) as appearing at 315 to 325°C upon measurement with a differential scanning calorimeter and C is a fluorovinyl ether derivative unit content (in mole percent) in the fluorocopolymer.

8. (currently amended): A molded article formed from the fluorocopolymer according to Claim 6 ~~or 7~~.

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9. (original): The molded article according to Claim 8,
which forms a membrane.

10. (currently amended): A solid polyelectrolyte fuel cell comprising the molded
article according to Claim 8 ~~or 9~~.